

## Activity and composition of the first interstellar comet 2I/Borisov with ground-based telescopes

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2I/Borisov is the first active interstellar comet observed in the Solar System, allowing for the first time to sample the composition of a planetary building block from an extrasolar system.

In this work, we report on the regular observations of 2I/Borisov with the TRAPPIST telescopes [1], which are equipped with broadband and comet-specific narrow-band filters [2]. We followed the activity of the comet from September 11, 2019 ( $r_h=2.8$  au inbound) until the beginning of March 2020, when it was 2.9 au outbound. The comet reached its maximum activity on November 29, 2019 (10 days before perihelion) with an apparent magnitude of  $16.50\pm 0.04$  measured within an aperture radius of 5" (equivalent to 10 000 km at the comet) in the R filter, an  $A(0)_{fp}(R)$  dust proxy of  $135\pm 7$  cm, and CN production rate of  $Q(CN)=(4.5\pm 0.7)10^{24}$  molecules/s,

derived using a Haser model [3]. The optical dust colors,  $B-V=0.82\pm 0.05$ ,  $V-R=0.46\pm 0.03$  and  $R-I=0.44\pm 0.05$ , are similar to those of Solar System comets. This result is in agreement with other studies [4]. In this presentation we will summarize the results of our campaign and describing some observations challenges for these objects in the future.

### References:

- [1] Jehin, E. et al. (2011), *The Messenger*, 145, 2
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- [3] Haser, L., (1957), *Bulletin de la Societe Royale des Sciences de Liege*, 43, 740
- [4] Guzik, P. et al. (2019), *arXiv e-prints*, art. *arXiv:1909.05851*